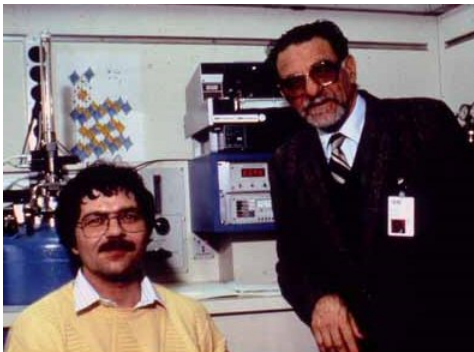


1986 : Discovery of High Temperature Superconductor

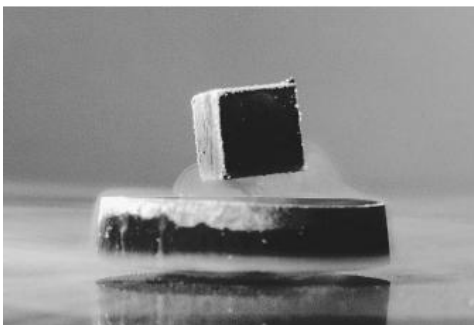
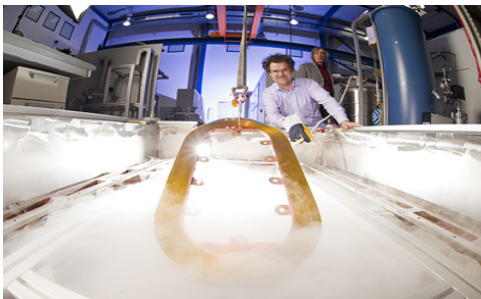


Left : J. Georg Bednorz

(1950 - Present)

Right: Karl Alex Muller

(1927 - Present)



History

(1911) Discovery of superconductivity @ 4K

(1933) Meissner Effect – levitation of magnet on superconductor

(1941) Niobium-nitride superconductivity @ 16K

(1953) Vanadium-silicon Supercond @ 17.5K

(1962) First commercial super conducting wire

(1980) First organic superconductor @ 1.2K and high pressure

(1986) Muller and Bednor created ceramic superconductor

Winning Work

(1980) Muller search for high temperature superconductive substances

(1983) Recruited Georg Bednorz to test oxides

(1986) Discovered Lanthanum Barium Copper Oxide (LBCO) superconductivity @ 35K

(April 1986) Reported discovery in “Zeitschrift fur Physik”

(late 1986) Confirmation by Shoji Tanaka and Paul

(1987) Muller and Bednorz received the Nobel Prize in physics.

Applications

- MagLev Train
- Transmission lines
- Superconducting motor
- Generator
- MRI imagers
- SQUID (Superconducting Quantum Interference Device)
- High energy collider (eg: LHC)
- Energy storage (for power stability)
- Fault Current Limiter
- Transformers
- Supercomputers

